In re Application of: Wagener et al.

Application No.: 10/718,764
Examiner: PENG, Kuo Liang

Page 2 of 12

Amendments to Claims:

This listing of claims will replace all prior versions and listings of claims in the instant application:

Listing of Claims:

Claims 1-6 (Cancelled).

7. (Withdrawn) The molecule of claim 1, wherein the molecule comprises at least two polymers each comprising the structure:

$$A_x-B_y$$

wherein the at least two polymers are internally crosslinked via at least one Si-O-Si linkage.

8. (Withdrawn) The molecule of claim 7, wherein the molecule comprises the structure of compound 4.

Claims 9-12. (Cancelled)

13. (Withdrawn) The molecule of claim 9, wherein the molecule comprises at least two polymers comprising the structure:

$$A_x-B_y-C_z$$

wherein the at least two polymers are internally crosslinked via at least one Si-O-Si linkage and chain-end crosslinked.

14. (Withdrawn) The molecule of claim 13, wherein the molecule comprises the structure of compound 8.

In re Application of: Wagener et al. Application No.: 10/718,764

Examiner: PENG, Kuo Liang

Page 3 of 12

15. (Withdrawn) The molecule of claim 13, wherein the molecule comprises the structure of compound 11.

- 16. (Withdrawn Currently Amended) A method of making the a molecule useful for making a silicon-containing polymer of claim 1, the method comprising the steps of:
- (a) preparing a reaction mixture comprising a carbosiloxane monomer, a carbosilane monomer, and an ADMET catalyst; and
- (b) placing the reaction mixture under conditions that result in the production of the molecule selected from the group of molecules consisting of the molecule of claim [[1]] 37 and the molecule of claim 39.
- 17. (Withdrawn) The method of claim 16, wherein the reaction mixture comprises the carbosilane monomer and the carbosiloxane monomer in a molar ratio of between about 1:5 and 1:100.
- 18. (Withdrawn) The method of claim 17, wherein the molar ratio is less than about 1:7.
- 19. (Withdrawn) The method of claim 16, wherein the reaction mixture comprises the monomers and ADMET catalyst in a molar ratio of between about 1:1 and about 1:5000.
- 20. (Withdrawn) The method of claim 19, wherein the reaction mixture comprises the monomers and ADMET catalyst in a molar ratio of between about 1200:1 and about 100:1.
- 21. (Withdrawn) The method of claim 16, wherein the reaction mixture further comprises a chain-end crosslinking molecule.

In re Application of: Wagener et al.

Application No.: 10/718,764 Examiner:

PENG, Kuo Liang

Page 4 of 12

- 22. (Withdrawn) The method of claim 21, wherein the reaction mixture comprises the carbosilane monomer, the carbosiloxane monomer, and the chain-end crosslinking molecule in a molar ratio of about 1-100:1-100:1-100.
- 23. (Withdrawn) The method of claim 21, wherein the carbosilane monomer and the chain-end crosslinking molecule comprise less than 20 mole percent of the reaction mixture.
 - 24. (Withdrawn) The method of claim 16, wherein the catalyst is selected from:

$$F_{3}C \longrightarrow O^{V}M_{0} = CH$$

$$F_{3}C \longrightarrow CH_{3}$$

$$F_{3}C \longrightarrow CH_{3}$$

$$CU'_{Ru} = CH$$

$$CI'_{PCy_{3}}$$

- 25. (Withdrawn) The method of claim 16, wherein the step (b) comprises placing the reaction mixture under dry conditions.
- 26. (Withdrawn) The method of claim 16, wherein the step (b) comprises placing the reaction mixture in an argon atmosphere.
- 27. (Withdrawn) The method of claim 16, wherein the step (b) comprises subjecting the reaction mixture to a vacuum force.
- 28. (Withdrawn) The method of claim 16, wherein the step (b) comprises adding heat to the reaction mixture.

In re Application of: Wagener et al. Application No.: 10/718,764 Examiner: PENG, Kuo Liang

Page 5 of 12

- 29. (Withdrawn) The method of claim 25, wherein the step (b) results in the production of a non-cross-linked polymer.
- 30. (Withdrawn) The method of claim 29, further comprising exposing the non-cross-linked polymer to water to form a cross-linked polymer.
 - 31. (Withdrawn) The method of claim 30, wherein the water is atmospheric moisture.

Claims 32 -36. (Canceled).

37. (New) A polymer comprising the structure:

wherein:

R is a latent reactive group selected from the group consisting of hydrogen, alkoxy, phenoxy, and halogen;

R' is selected from the group consisting of alkyl, phenyl, hydrogen, halogen, alkoxy, and phenoxy;

R₁ is a hydrocarbon chain having at least two CH₂ groups;

C is a chain-end cross-linking molecule;

coefficients z, x' and y' are integers greater than or equal to 1; and

In re Application of: Wagener et al. Application No.: 10/718,764
Examiner: PENG, Kuo Liang

Page 6 of 12

coefficient y is an integer greater than or equal to 2.

38. (New) The polymer of claim 37, wherein C is derived from a compound selected from the group consisting of compound 5 and compound 6 having the structure:

wherein, x is an integer greater than or equal to 2.

39 (New) A polymer comprising the structure:

wherein, coefficients x, y and z are integers greater than or equal to 1, and R" is selected (CH₂)₀CH=CH₂ and (CH₂)_nCH=, wherein,

(CH₂)_nCH= is a branching site whereby adjacent polymers are cross-linked and n is an integer greater than or equal to 2.